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Product data sheet

# CD90 Monoclonal Antibody (5a-8)

# Catalog Number MA1-70062

| Details            |                                  | Species Reactivity   |                           |
|--------------------|----------------------------------|--|---------------------------|
| Size               | 250 µg                           | Species reactivity   | Mouse                     |
| Host/Isotope       | Mouse / IgG2b, kappa             | Published species  | Mouse, Not Applicable     |
| Class              | Monoclonal                       | Tested Applications  | Dilution *                |
| Туре               | Antibody                         | Flow Cytometry (Flow)  | 1 µg/1 million cells      |
| Clone              | 5a-8                             | Published Applications   |                           |
| Immunogen          | CBA/J.                           | Miscellaneous PubMed (Misc)  | See 19 publications below |
| Conjugate          | Unconjugated                     | Flow Cytometry (Flow)  | See 4 publications below  |
| Form               | Liquid                           | * Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls. |                           |
| Concentration      | 1 mg/mL                          |  |                           |
| Purification       | Protein G                        |  |                           |
| Storage buffer     | PBS                              |  |                           |
| Contains           | 0.02% sodium azide               |  |                           |
| Storage Conditions | -20° C, Avoid Freeze/Thaw Cycles |  |                           |

### Product specific information

MA1-70062 detects CD90 in mouse samples. MA1-70062 has been successfully used in flow cytometry and immunohistochemistry (frozen sections) procedures. The MA1-70062 immunogen is CBA/J.

#### Background/Target Information

CD90 (Thy 1) antigen is a GPI linked glycoprotein member of the Immunoglobulin super family. CD90 is expressed in murine T cells, thymocytes, neural cells, Kupffer's cells and fibroblasts. CD90 may play a role in cell-cell or cell-ligand interactions during synaptogenesis and other events in the brain. CD90 can be used as a marker for a variety of stem cells and for the axonal processes of mature neurons. Structural study of CD90 led to the foundation of the Immunoglobulin superfamily, of which it is the smallest member, and led to the first biochemical description and characterization of a vertebrate GPI anchor. Diseases associated with CD90 dysfunction include nasopharyngeal carcinoma and thymoma.

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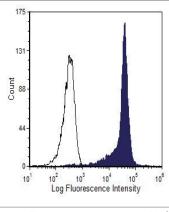
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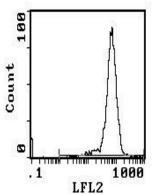


## Product Images For CD90 Monoclonal Antibody (5a-8)



#### CD90 Antibody (MA1-70062) in Flow

Flow cytometric analysis of Balb/c mouse thymocytes stained using a CD90/Thy-1 monoclonal antibody (Product # MA1-70062) (filled histogram) or mouse IgG2b isotype control (open histogram).



#### CD90 Antibody (MA1-70062) in Flow

Flow cytometric analysis of thymus cells stained using a CD90/Thy-1 monoclonal antibody (Product # MA1-70062) at a 1.0 µg/10^6 cells dilution.

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| 19 Miscellaneous Pub | led References  |
|----------------------|---|
| Species / Dilution   | Summary   |
|                      | MA1-70062 was used in flow cytometry to report that TAN1 is an oncoprotein.   |
| Mouse / Not Cited    | The Journal of experimental medicine (1996; 183: 2283)<br><b>"Exclusive development of T cell neoplasms in mice transplanted with bone marrow expressing activated Notch alleles."</b><br>Author(s):Pear WS,Aster JC,Scott ML,Hasserjian RP,Soffer B,Sklar J,Baltimore D<br>PubMed Article URL:http://dx.doi.org/10.1084/jem.183.5.2283   |
| Mouse / Not Cited    | MA1-70062 was used in flow cytometry to report that the balance of donor-type CD4(+)CD25(+) T(reg) and conventiona CD4(+)CD25(-) T cells determines the outcome of acute graft-versus-host disease.   |
|                      | The Journal of experimental medicine (2002; 196: 389)<br><b>"Donor-type CD4(+)CD25(+) regulatory T cells suppress lethal acute graft-versus-host disease after allogeneic<br/>bone marrow transplantation."</b><br>Author(s):Hoffmann P,Ermann J,Edinger M,Fathman CG,Strober S<br>PubMed Article URL:http://dx.doi.org/10.1084/jem.20020399  |
| Mouse / Not Cited    | MA1-70062 was used in flow cytometry to test if specific subsets of cells in allogeneic bone marrow transplants can trea the BCL(1) B-cell lymphoma without inducing graft verses host disease.   |
|                      | Blood (2001; 97: 3458)<br><b>"Allogeneic bone marrow cells that facilitate complete chimerism and eliminate tumor cells express both CD8</b><br><b>and T-cell antigen receptor-alphabeta."</b><br>Author(s):Lan F,Zeng D,Huie P,Higgins JP,Strober S<br>PubMed Article URL:http://dx.doi.org/10.1182/blood.v97.11.3458  |
|                      | MA1-70062 was used in flow cytometry to examine multipotent progenitors from early fetuses.   |
| Mouse / Not Cited    | Journal of immunology (Baltimore, Md. : 1950) (2001; 166: 3290)<br><b>"Immature multipotent hemopoietic progenitors lacking long-term bone marrow-reconstituting activity in the</b><br><b>aorta-gonad-mesonephros region of murine day 10 fetuses."</b><br>Author(s):Ohmura K,Kawamoto H,Lu M,Ikawa T,Ozaki S,Nakao K,Katsura Y<br>PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.166.5.3290                |
| Mouse / Not Cited    | MA1-70062 was used in flow cytometry to generate and characterize eosinophils from murine embryonic stem cells.   |
|                      | British journal of haematology (2004; 124: 819)<br><b>"Development and functional analysis of eosinophils from murine embryonic stem cells."</b><br>Author(s):Hamaguchi-Tsuru E,Nobumoto A,Hirose N,Kataoka S,Fujikawa-Adachi K,Furuya M,Tominaga A<br>PubMed Article URL:http://dx.doi.org/10.1111/j.1365-2141.2004.04850.x  |
| Mouse / Not Cited    | MA1-70062 was used in flow cytometry to assess cryptomonad-derived phycobiliproteins for their applicability to flow cytometry.   |
|                      | Cytometry (2001; 44: 16)<br>"Cryptomonad algal phycobiliproteins as fluorochromes for extracellular and intracellular antigen detection by<br>flow cytometry."<br>Author(s):Telford WG,Moss MW,Morseman JP,Allnutt FC<br>PubMed Article URL:http://dx.doi.org/10.1002/1097-0320(20010501)44:1<16::aid-cyto1077>3.0.co;2-h   |
| Mouse / Not Cited    | MA1-70062 was used in flow cytometry to develop a nonmyeloablative host conditioning regimen for transplantation.   |
|                      | Journal of immunology (Baltimore, Md. : 1950) (2001; 167: 2087)<br>"Predominance of NK1.1+TCR alpha beta+ or DX5+TCR alpha beta+ T cells in mice conditioned with fractionated<br>lymphoid irradiation protects against graft-versus-host disease: "natural suppressor" cells."<br>Author(s):Lan F,Zeng D,Higuchi M,Huie P,Higgins JP,Strober S<br>PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.167.4.2087 |
| Mouse / Not Cited    | MA1-70062 was used in flow cytometry to identify a rare population of cells in the adult mouse bone marrow that generates CD4(+) and CD8(+) TCRalphabeta(+) T cells.  |
|                      | Proceedings of the National Academy of Sciences of the United States of America (1999; 96: 14493)<br><b>"Identification of an early T cell progenitor for a pathway of T cell maturation in the bone marrow."</b><br>Author(s):Dejbakhsh-Jones S,Strober S<br>PubMed Article URL:http://dx.doi.org/10.1073/pnas.96.25.14493   |
|                      | MA1-70062 was used in flow cytometry to investigate the fate of autoreactive B cells in lpr/lpr mice.   |
| Mouse / Not Cited    | Journal of immunology (Baltimore, Md. : 1950) (1994; 153: 2831)<br><b>"Effects of the lpr mutation on elimination and inactivation of self-reactive B cells."</b><br>Author(s):Rathmell JC,Goodnow CC<br>PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/8077685  |

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|                   | MA1-70062 was used in flow cytometry to test if thymocytes and thymic dendritic cell develop from a common intrathymic progenitor.   |
|-------------------|--|
| Mouse / Not Cited | Proceedings of the National Academy of Sciences of the United States of America (1999; 96: 15068)<br>"Developmental dissociation of thymic dendritic cell and thymocyte lineages revealed in growth factor receptor<br>mutant mice."<br>Author(s):Rodewald HR,Brocker T,Haller C<br>PubMed Article URL:http://dx.doi.org/10.1073/pnas.96.26.15068  |
|                   | MA1-70062 was used in flow cytometry to identify progenitors that can result in T cells via an extrathymic pathway.  |
| Mouse / Not Cited | Proceedings of the National Academy of Sciences of the United States of America (2001; 98: 7455)<br>"Clonable progenitors committed to the T lymphocyte lineage in the mouse bone marrow; use of an extrathymic<br>pathway."<br>Author(s):Dejbakhsh-Jones S,Garcia-Ojeda ME,Chatterjea-Matthes D,Zeng D,Strober S<br>PubMed Article URL:http://dx.doi.org/10.1073/pnas.131559798                                     |
|                   | MA1-70062 was used in flow cytometry to examine early T cell progenitor development in the nu/nu bone marrow.  |
| Mouse / Not Cited | Journal of immunology (Baltimore, Md. : 1950) ( 2003; 171: 1207)<br><b>"Early defect prethymic in bone marrow T cell progenitors in athymic nu/nu mice."</b><br>Author(s):Chatterjea-Matthes D,García-Ojeda ME,Dejbakhsh-Jones S,Jerabek L,Manz MG,Weissman IL,Strober S<br>PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.171.3.1207   |
| Mouse / Not Cited | MA1-70062 was used in flow cytometry to study the immunogenicity and immunomodulatory properties of bone marrow-<br>derived mesenchymal stem cells using an allogeneic mouse model.  |
|                   | Journal of tissue engineering (2014; 5:)<br><b>"Immunogenicity of undifferentiated and differentiated allogeneic mouse mesenchymal stem cells."</b><br>Author(s):Mukonoweshuro B,Brown CJ,Fisher J,Ingham E<br>PubMed Article URL:http://dx.doi.org/10.1177/2041731414534255   |
| Mouse / Not Cited | MA1-70062 was used in flow cytometry to investigate factors that mediate induction and maintenance of the 3D configuration of the epithelial network in fetal thymic lobes in vitro.   |
|                   | The journal of histochemistry and cytochemistry : official journal of the Histochemistry Society (2003; 51: 1225)<br><b>"Development of thymic microenvironments in vitro is oxygen-dependent and requires permanent presence of T-<br/>cell progenitors."</b><br>Author(s):Germeraad WT,Kawamoto H,Itoi M,Jiang Y,Amagai T,Katsura Y,van Ewijk W<br>PubMed Article URL:http://dx.doi.org/10.1177/002215540305100913 |
| Mouse / Not Cited | MA1-70062 was used in flow cytometry to describe a clonal system that supports the development of T and natural killer cells evenly.   |
|                   | The Journal of experimental medicine (1999; 190: 1617)<br><b>"Commitment of common T/Natural killer (NK) progenitors to unipotent T and NK progenitors in the murine fetal<br/>thymus revealed by a single progenitor assay."</b><br>Author(s):Ikawa T,Kawamoto H,Fujimoto S,Katsura Y<br>PubMed Article URL:http://dx.doi.org/10.1084/jem.190.11.1617   |
| Mouse / Not Cited | MA1-70062 was used in flow cytometry to investigate the aorta-gonad-mesonephros region as a source of hemopoietic progenitors.   |
|                   | Journal of immunology (Baltimore, Md. : 1950) (1999; 163: 4788)<br>"Emergence of T, B, and myeloid lineage-committed as well as multipotent hemopoietic progenitors in the aorta-<br>gonad-mesonephros region of day 10 fetuses of the mouse."<br>Author(s):Ohmura K,Kawamoto H,Fujimoto S,Ozaki S,Nakao K,Katsura Y<br>PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/10528178                               |
| Mouse / Not Cited | MA1-70062 was used in flow cytometry to assess if progenitors colonizing the thymus are T cell lineage restricted.   |
|                   | Journal of immunology (Baltimore, Md. : 1950) (1999; 162: 2725)<br><b>"Emergence of T cell progenitors without B cell or myeloid differentiation potential at the earliest stage of</b><br><b>hematopoiesis in the murine fetal liver."</b><br>Author(s):Kawamoto H,Ohmura K,Fujimoto S,Katsura Y<br>PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/10072517  |
|                   | MA1-70062 was used in flow cytometry to test if pregnancies and gender influence the cellar changes observed during ageing in mice.  |
| Mouse / Not Cited | Clinical and experimental immunology (1997; 107: 593)<br><b>"Surface antigen expression in spleen cells of C57B1/6 mice during ageing: influence of sex and parity."</b><br>Author(s):Barrat F,Lesourd BM,Louise A,Boulouis HJ,Vincent-Naulleau S,Thibault D,Sanaa M,Neway T,Pilet CH<br>PubMed Article URL:http://dx.doi.org/10.1046/j.1365-2249.1997.3021199.x   |

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|                            | MA1-70062 was used in flow cytometry to report that FcR is a useful marker to isolate the most immature population of murine fetal thymic cells.<br>The Journal of experimental medicine (1996; 184: 1901)<br>"Isolation of the most immature population of murine fetal thymocytes that includes progenitors capable of generating T, B, and myeloid cells."<br>Author(s):Hattori N,Kawamoto H,Katsura Y<br>PubMed Article URL:http://dx.doi.org/10.1084/jem.184.5.1901 |  |  |
|----------------------------|--|--|--|
| Mouse / Not Cited          |  |  |  |
| 4 Flow Cytometry Reference | ces  |  |  |
| Species / Dilution         | Summary  |  |  |
| Not Applicable / Not Cited | MA1-70062 was used in flow cytometry to suggest that the influenza A virus affects the MHC class II antigen-processing pathway   |  |  |
|                            | International immunology ( 2007; 19: 645)<br><b>"Influenza A virus elevates active cathepsin B in primary murine DC."</b><br>Author(s):Burster T,Giffon T,Dahl ME,Björck P,Bogyo M,Weber E,Mahmood K,Lewis DB,Mellins ED<br>PubMed Article URL:http://dx.doi.org/10.1093/intimm/dxm030   |  |  |
| Not Applicable / Not Cited | MA1-70062 was used in flow cytometry to conclude that bone marrow committed T cell progenitors can generate functional T cells via an extrathymic pathway  |  |  |
|                            | Journal of immunology (Baltimore, Md. : 1950) (2005; 175: 4363)<br>"Stepwise development of committed progenitors in the bone marrow that generate functional T cells in the<br>absence of the thymus."<br>Author(s):García-Ojeda ME,Dejbakhsh-Jones S,Chatterjea-Matthes D,Mukhopadhyay A,BitMansour A,Weissman IL,<br>Brown JM,Strober S<br>PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.175.7.4363   |  |  |
| Not Applicable / Not Cited | MA1-70062 was used in flow cytometry to investigate the effect of Stat6 in T cell expansion, survival, and recruitment to the lung   |  |  |
|                            | Journal of immunology (Baltimore, Md. : 1950) (2008; 180: 754)<br><b>"Accumulation of effector CD4 T cells during type 2 immune responses is negatively regulated by Stat6."</b><br>Author(s):King SB,Knorn AM,Ohnmacht C,Voehringer D<br>PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.180.2.754  |  |  |
| Not Applicable / Not Cited | MA1-70062 was used in flow cytometry to investigate the role of B cells in Sjogren's syndrome in a mouse model   |  |  |
|                            | Immunology ( 2007; 122: 73)<br><b>"B-lymphocyte depletion ameliorates Sjögren's syndrome in Id3 knockout mice."</b><br>Author(s):Hayakawa I,Tedder TF,Zhuang Y<br>PubMed Article URL:http://dx.doi.org/10.1111/j.1365-2567.2007.02614.x  |  |  |

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